

Abstract of the Disclosure

A method and a circuit arrangement are disclosed for generating an auxiliary symbol ( $S_h$ ) when a digital signal ( $s$ ) locked to a quadrature signal pair ( $I, Q$ ) is received. The method comprises the following steps. According to predetermined positions ( $S_m, n$ ) of the digital signal ( $s$ ) in the plane determined by the quadrature signal pair ( $I, Q$ ), nominal radii ( $R_s$ ) and range limits, particularly radius limits ( $R_g$ ), are determined. By means of a sampling device (10; 14) controlled by a symbol sampling clock ( $t_s$ ), preliminary symbols ( $S$ ) are formed from the digital signal ( $s$ ), and their polar coordinates ( $R, \alpha$ ) are determined. From the polar coordinates ( $R, \alpha$ ), particularly from the radius component ( $R$ ), an associated nominal radius ( $R_{si}$ ) is determined which, together with the angle component ( $\alpha$ ) of the preliminary symbol ( $S$ ), determines the polar coordinates of the auxiliary symbol ( $S_h$ ) in the plane of the quadrature signal pair ( $I, Q$ ). This auxiliary symbol ( $S_h$ ) replaces the decision symbols ( $S_e$ ) in at least one decision-feedback controller (11, 13, 14; 40, 13, 14) during the adjustment phase.

(For the abstract: Fig. 4)